Experimental Neurology

VOLUME 96, 1987

EDITOR

CARMINE D. CLEMENTE, *University of California, Los Angeles*

MANAGING EDITOR

LOUISE H. MARSHALL, *University of California, Los Angeles*

FOUNDING EDITOR

WILLIAM F. WINDLE

ACADEMIC PRESS, INC.

Harcourt Brace Jovanovich, Publishers

San Diego Orlando New York Austin Boston

London Sydney Tokyo Toronto

Copyright © 1987 by Academic Press, Inc.

ALL RIGHTS RESERVED

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1987 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0014-4886/87 $3.00

MADE IN THE UNITED STATES OF AMERICA

CONTENTS OF VOLUME 96

NUMBER 1, APRIL 1987

PABLO PACHECO, MARGARITA MARTINEZ-GOMEZ, AND BERNARDO DUBROVSKY. Ventral Root Potentials of the Cat's Sacrococcygeal Segments Evoked by Stimulation of Intact and Transected Dorsal Roots 1

MARGARITA MARTINEZ-GOMEZ, PABLO PACHECO, AND BERNARDO DUBROVSKY. Reflex Responses Evoked from Cats' Coccygeal Ventral Roots by Electrical Stimulation of the Tail Nerves 11

EIICHI MARU AND GRAHAM V. GODDARD. Alteration in Dentate Neuronal Activities Associated with Perforant Path Kindling. I. Long-Term Potentiation of Excitatory Synaptic Transmission 19

EIICHI MARU AND GRAHAM V. GODDARD. Alteration in Dentate Neuronal Activities Associated with Perforant Path Kindling. II. Decrease in Granule Cell Excitability .. 33

EIICHI MARU AND GRAHAM V. GODDARD. Alteration in Dentate Neuronal Activities Associated with Perforant Path Kindling. III. Enhancement of Synaptic Inhibition .. 46

FRANCISCO CORIA, ROSARIO FERNÁNDEZ, INMACULADA SILOS, AND EMILIO GEIJO. Cytochemical Characteristics of the Axon Membrane at Nodes of Ranvier in Resting, Tetrodotoxin-Blocked, and Electrically Stimulated Peripheral Nerves of the Rat 61

MICHAEL E. TRULSON, TAMELLA J. TRULSON, AND KAMYAR ARASTEH. Recording of Mouse Ventral Tegmental Area Dopamine-Containing Neurons 68

S. K. SOMERSON AND B. T. STOKES. Functional Analysis of an Electromechanical Spinal Cord Injury Device 82

DONALD P. CAIN, DOUGLAS J. MCKITRICK, AND KATHRYN A. DESBOROUGH. Effects of Treatment with Scopolamine and Naloxone, Singly and in Combination, on Amygdala Kindling 97

A. J. THEXTON AND J. MCGARRICK. Effect of Experimentally Elicited Rhythmic Oral Activity on the Linguodigastric Reflex in the Lightly Anesthetized Rabbit 104

HIROYUKI KATO, KYUYA KOGURE, NOBUO SAKAMOTO, AND TAKAO WATANABE. Greater Disturbance of Water and Ion Homeostasis in the Periphery of Experimental Focal Cerebral Ischemia 118

M. VERGNES, C. MARESCAUX, A. DEPAULIS, G. MICHELETTI, AND J. M. WARTER. Spontaneous Spike and Wave Discharges in Thalamus and Cortex in a Rat Model of Genetic Petit Mal-like Seizures 127

M. MINTZ, R. TOMER, S. HOUPT, AND L. J. HERBERG. Amygdala Kindling Modifies Interhemispheric Dopaminergic Asymmetry 137

RYOKO MIYAZAKI AND ERICH S. LUSCHEI. Responses of Neurons in Nucleus Supratrigeminalis to Sinusoidal Jaw Movements in the Cat 145

MARGARET N. SHOUSE. Sleep Disorders in Kindled Cats Differ According to the Timing of Polygraphic Recordings and of Seizures in the Sleep–Wake Cycle 158

OPHELIA I. WEEKS AND ARTHUR W. ENGLISH. Cat Triceps Surae Motor Nuclei Are Organized Topologically 163

PETER J. SOJA, DAVID M. FINCH, AND MICHAEL H. CHASE. Effect of Inhibitory Amino Acid Antagonists on Masseteric Reflex Suppression during Active Sleep 178

D. R. TOMLINSON, G. B. WILLARS, AND E. F. CALTHROP-OWEN. Defects of Axonal Transport in Experimental Diabetes That Are Unrelated to the Sorbitol Pathway ... 194

RESEARCH NOTES

YOSHIKI TAKEUCHI, OSAMU TAKAHASHI, TAKAHIRO SATODA, AND RYOTARO MATSUSHIMA. Long Dendrites of the Parabrachial Nucleus Neurons Projecting to the Amygdala: A Horseradish Peroxidase and Golgi Study in the Cat 203

RENATA BARTESAGHI. Supernormal Excitability of Fibers of the Dorsal Hippocampal Commissure 208

TERRY F. EATHER AND MARTIN POLLOCK. Collagen Synthesis in Axotomized Peripheral Nerve: Evidence against Schwann Cell Involvement 214

James J. Quattrochi, Roger Madison, Richard L. Sidman, and Ivar Kljavin. Colloidal Gold Fluorescent Microspheres: A New Retrograde Marker Visualized by Light and Electron Microscopy 219
W. A. Van Gool, H. F. Pronker, M. Mirmiran, and H. B. M. Uylings. Effect of Housing in an Enriched Environment on the Size of the Cerebral Cortex in Young and Old Rats 225
Julie Y. H. Chan and Samuel H. H. Chan. Interactions between Guanabenz and Clonidine in Their Antinociceptive Effects in the Rat 233
In Appreciation 237

Number 2, May 1987

Marian C. Diamond, E Rosalie Greer, Alison York, David Lewis, Tamara Barton, and James Lin. Rat Cortical Morphology following Crowded-Enriched Living Conditions 241
O. Brunetti, C. Carobi, and U. Pazzaglia. Influence of Atrophy on the Efficiency of Muscle Reinnervation 248
Steven M. Barlow. Mechanical Frequency Detection Thresholds in the Human Face 253
Etan J. Markus and Ted L. Petit. Neocortical Synaptogenesis, Aging, and Behavior: Lifespan Development in the Motor–Sensory System of the Rat 262
Walter M. St. John and Donald Bartlett, Jr. Changes in Phrenic, Mylohyoid, and Hypoglossal Nerve Activities that Follow Intravenous Infusions of Aminophylline .. 279
M. Galvan, A. Kupsch, and G. ten Bruggencate. Actions of MPTP and MPP^+ on Synaptic Transmission in Guinea-Pig Hippocampal Slices 289
J. G. Collins, Ke Ren, and Jichenq Tang. Lack of Spontaneous Activity of Cutaneous Spinal Dorsal Horn Neurons in Awake, Drug-Free, Spinally Transected Cats 299
Vijaya K. Vijayan and Carl W. Cotman. Hydrocortisone Administration Alters Glial Reaction to Entorhinal Lesion in the Rat Dentate Gyrus 307
F. Linn, W. Paschen, B. Grosse Ophoff, and K.-A. Hossmann. Mitochondrial Respiration during Recirculation after Prolonged Ischemia in Cat Brain 321
D. W. Clow and R. J. Boegman. Effect of Denervation on Adenine Nucleotides in Skeletal Muscle from Normal and Dystrophic Mice 334
Stephen J. Peroutka, David A. Gonzales, and Meryl Shapiro. Modulation of Postdecapitation Convulsions in Rats by α-Adrenergic and 5-Hydroxytryptamine$_{1A}$ Agents 344
U. E. Gasser and A. R. Dravid. Noradrenergic, Serotonergic, and Cholinergic Sprouting in the Hippocampus that Follows Partial or Complete Transection of the Septohippocampal Pathway: Contributions of Spared Inputs 352
Andrea Martinuzzi, Valerie Askanas, Takayoshi Kobayashi, W. King Engel, and Jay E. Gorsky. Developmental Expression of the Muscle-Specific Isozyme of Phosphoglycerate Mutase in Human Muscle Cultured in Monolayer and Innervated by Fetal Rat Spinal Cord 365
Fidel de-la-Cruz, Sergio M. Pellis, and Vivien C. Pellis. Sex Differences in the Effects of Haloperidol, Morphine, and Their Combination on Colonic Temperature in Rats 376
Linda J. Burdette and Robert S. Dyer. Differential Effects of Caffeine, Picrotoxin, and Pentylenetetrazol on Hippocampal Afterdischarge Activity and Wet Dog Shakes 381
Paul L. Penar. A Model of Embolic Cerebral Ischemia in the Rat 393
James A. Kaltenbach and James C. Saunders. Spectral and Temporal Response Patterns of Single Units in the Chinchilla Dorsal Cochlear Nucleus 406
Margaret Maulucci-Gedde and Dennis W. Choi. Cortical Neurons Exposed to Glutamate Rapidly Leak Preloaded ^{51}Chromium 420
S. J. Goldberg and D. G. Moulton. Olfactory Bulb Responses Telemetered during an Odor Discrimination Task in Rats 430
T. Higuchi, K. Uchide, K. Honda, and H. Negoro. Pelvic Neurectomy Abolishes the Fetus-Expulsion Reflex and Induces Dystocia in the Rat 443

RESEARCH NOTES

DEE S. PARSONS, ANDREA PEAGLER, T. STEVEN BARLOW, AND LINDY E. HARRELL. Failure of Chronic Physostigmine to Ameliorate Working Memory Deficits after Medial Septal Lesions 456

HIROYUKI UNO, HAJIME SAWAI, AND YUTAKA FUKUDA. Anomalous Optic Nerve Fiber Convergences in the Ipsilateral Retinocollicular Projection: a Comparison of Congenitally Monocular and Neonatally One-Eye-Removed Rats 462

SATORU YOSHII, TAKAO YAMAMURO, SEIJI ITO, AND MASAO HAYASHI. *In Vivo* Guidance of Regenerating Nerve by Laminin-Coated Filaments 469

MARK D. HABGOOD AND WILLIAM G. HOPKINS. End-Plate Growth Exceeds Nerve Terminal Growth in Juvenile Mice 474

NUMBER 3, JUNE 1987

IN MEMORIAM

K. GEOFFREY WHITE. Graham Valentine Goddard 479

EVA BAKAY PRAGAY, ALLAN F. MIRSKY, AND RICHARD K. NAKAMURA. Attention-Related Unit Activity in the Frontal Association Cortex during a Go/No-Go Visual Discrimination Task 481

RAIMOND EMMERS, HADASSAH TAMIR, AND MEIR WILCHEK. Influence of a Serotonin Receptor Antagonist, 5-HTP-DP-hex, on Spinal and Thalamic Nociceptive Neurons in Rats 501

SERGE LE BOZEC, OWEN M. EVANS, AND BERNARD MATON. Long-Latency Stretch Reflexes of the Human Elbow Extensors during Voluntary Relaxation: Differences between Agonistic Muscles 516

JOHJI OKUBO, SEIICHIRO KITAMURA, KIMIO OGATA, AND AKIRA SAKAI. Localization of Rabbit Laryngeal Motoneurons in the Nucleus Ambiguus 528

MOTOHIDE TAKEMURA, TOMOSADA SUGIMOTO, AND AKIRA SAKAI. Topographic Organization of Central Terminal Region of Different Sensory Branches of the Rat Mandibular Nerve 540

ROSELY OLIVEIRA GODINHO, MARIA TERESA LIMA-LANDMAN, CADEN SOUCCAR, AND ANTONIO JOSÉ LAPA. Trophic Control of Cholinesterase Activity in a Testosterone-Dependent Muscle of the Rat: Effects of Castration and Denervation 558

DAN C. MCINTYRE AND NINA EDSON. Facilitation of Secondary Site Kindling in the Dorsal Hippocampus following Forebrain Bisection 569

SANDRA J. KELLY, DWIGHT R. PIERCE, AND JAMES R. WEST. Microencephaly and Hyperactivity in Adult Rats Can Be Induced by Neonatal Exposure to High Blood Alcohol Concentrations 580

JEAN LUD CADET, TAMMY BRAUN, AND WILLIAM J. FREED. The Dopamine D-2 Antagonist, Ro 22-1319, Inhibits the Persistent Behavioral Syndrome Induced by Iminodipropionitrile (IDPN) in Mice 594

W. RAABE. The H-Reflex in the Encephalopathy Due to Ammonia Intoxication 601

JAMES D. SCHMELZER AND PHILLIP A. LOW. Electrophysiological Studies on the Effect of Age on Caudal Nerve of the Rat 612

JAMES V. FURICCHIA AND HARRY G. GOSHGARIAN. Dendritic Organization of Phrenic Motoneurons in the Adult Rat 621

EDWARD K. ALFORD, ROLAND R. ROY, JOHN A. HODGSON, AND V. R. EDGERTON. Electromyography of Rat Soleus, Medial Gastrocnemius, and Tibialis Anterior during Hind Limb Suspension 635

A. M. WINIARSKI, R. R. ROY, E. K. ALFORD, P. C. CHIANG, AND V. R. EDGERTON. Mechanical Properties of Rat Skeletal Muscle after Hind Limb Suspension 650

L. REBECCA CAMPBELL, HARPAL S. BAL, T. ARUMUGAM, AND G. S. SOHAL. Relationship of Early Neural Tube Appearance to Myeloschisis in a Chick Embryo Model 661

JULIA K. TERZIS AND KENNETH J. SMITH. Repair of Severed Peripheral Nerves: Comparison of the "de Medinaceli" and Standard Microsuture Methods 672

JOHN P. VICEDOMINI AND J. VICTOR NADLER. A Model of Status Epilepticus Based on Electrical Stimulation of Hippocampal Afferent Pathways 681

MICHAEL W. KALICHMAN AND ROBERT R. MYERS. Behavioral and Electrophysiological Recovery following Cryogenic Nerve Injury 692
MICHAEL R. PRANZATELLI AND S. ROBERT SNODGRASS. Harmala Alkaloids and Related β-Carbolines: A Myoclonic Model and Antimyoclonic Drugs 703

RESEARCH NOTES
LESZEK KUBIN, JANUSZ LIPSKI, AND ANDRZEJ TRZEBSKI. Respiratory Rhythmicity in a Split Medulla Preparation of the Cat 720
NEDIM C. BUYUKMIHCI, FAYE GOEHRING-HARMON, AND RICHARD F. MARSH. Photoreceptor Degeneration in Experimental Transmissible Mink Encephalopathy of Hamsters 727
M. DRAGUNOW, G. V. GODDARD, AND R. LAVERTY. Proconvulsant Effects of Theophylline on Hippocampal Afterdischarges 732

AUTHOR INDEX FOR VOLUME 96 736

The Subject Index for Volume 96 will appear in the December 1987 issue as part of a cumulative index for the year 1987.